

9-valent HPV vaccine (9vHPV) GRADE Policy Questions, Available Data, PICO

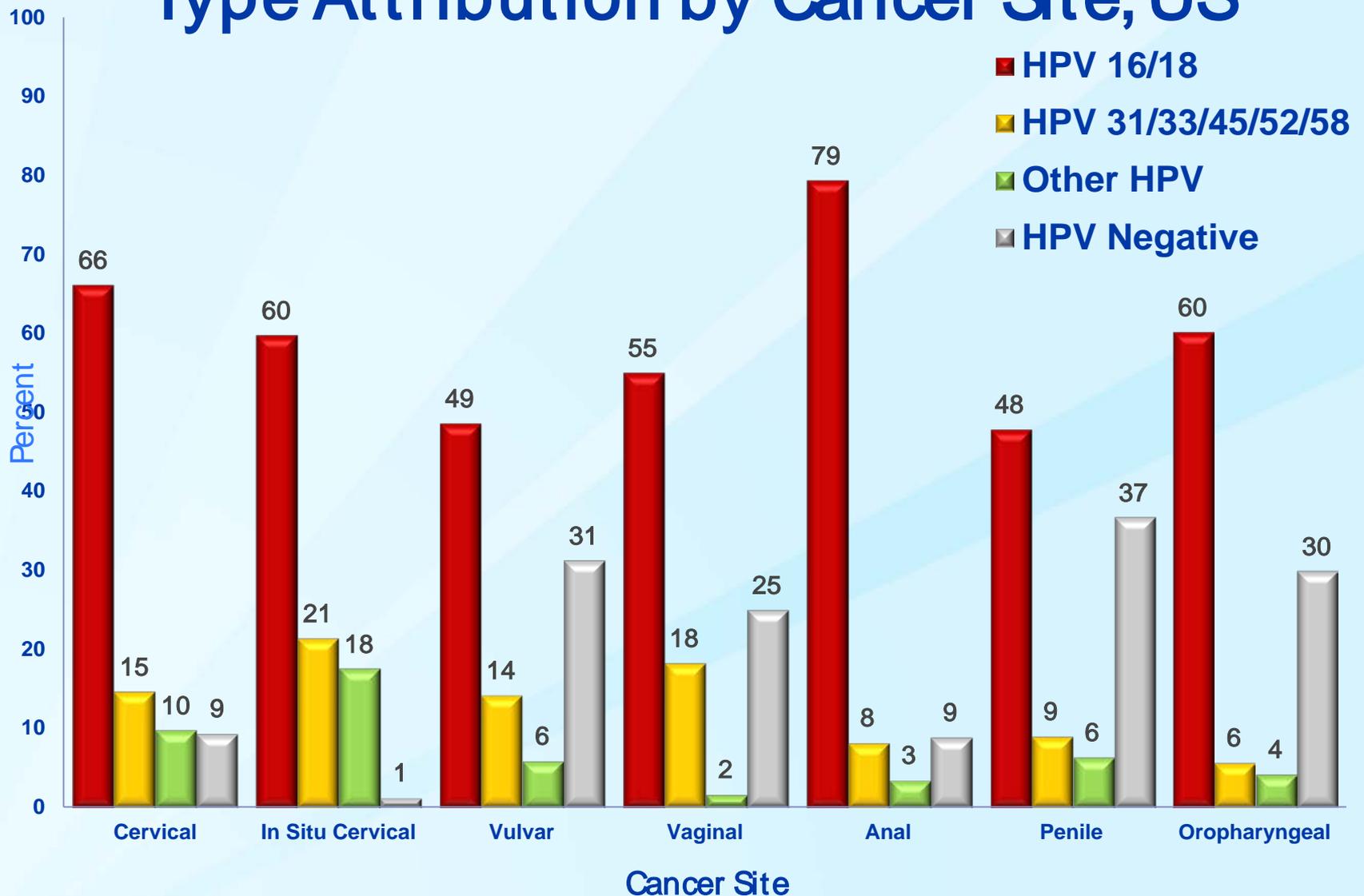
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Overview

- ❑ Review of attribution of HPV types to cervical precancer and cancers
- ❑ 9vHPV policy questions for consideration
- ❑ 9vHPV studies
- ❑ Critical outcomes
- ❑ PICO for primary policy questions
- ❑ Cost effectiveness considerations
- ❑ Next steps GRADE

Type Attribution by Cancer Site, US



Saraiya et al, February 2014, ACIP

HPV 16, 18 and 31, 33, 45, 52, 58 Attribution (Types prevented by 9vHPV)

- **CIN2+ lesions:**
 - ~50% attributable to HPV16/18
 - ~25% attributable to 5 additional types 9vHPV
- **HPV-associated invasive cancers:**
 - 62% (95% CI 60-65) attributable to HPV 16/18
 - 62% for females
 - 63% for males
 - 11% (95% CI 10-13) attributable to 5 additional types in 9vHPV
 - 14% for females
 - 5% for males

9vHPV Policy Questions

- ❑ Should 9vHPV vaccine be recommended routinely for 11 or 12 year olds?
- ❑ Should 9vHPV be recommended for females aged 13-26 years and males aged 13-21 years who have not initiated or completed the vaccine series?
- ❑ Should girls/women who received 3 doses of HPV4 be revaccinated with 3 doses of 9vHPV?

Additional question for special population:

- ❑ Should 9vHPV be recommended for MSM through age 26 years who have not initiated or completed the vaccine series?

9vHPV Studies for Initial Filing*

Study	Population	N	Objective
<i>Pivotal efficacy study</i>			
001	16-26 yo women	14000	Dose-ranging, efficacy, immunogenicity, safety
<i>Immunobridging studies in adolescents</i>			
002	9-15 yo boys & girls and 16-26 yo women	2800	Adult-to-adolescent immunobridging
009	9-15 yo girls	600	HPV4-to-9vHPV immunobridging
<i>Concomitant use studies</i>			
005	11-15 yo boys & girls	1240	Concomitant use: Menactra, Adacel
007	11-15 yo boys & girls	1040	Concomitant use: Repevax
<i>Study in prior qHPV vaccine recipients</i>			
006	12-26 yo girls & women	900	Safety in prior HPV4 recipients

*Study 003 Immunogenicity study in 16-26 yo males expected October 2014, 1100 MSW and 300 MSM

9vHPV Clinical Trials: Overview

- ❑ Pivotal trial was a comparison of HPV4 and 9vHPV (no placebo arm)
- ❑ Data in adult females: efficacy and immunogenicity (data available)
- ❑ Data in adult males: immunogenicity in MSW and MSM (data available October 2014)
- ❑ Data on revaccination with 9vHPV in females only
- ❑ Schedule of immunization for these trials is 0, 2, 6 months

Critical Outcomes

- ❑ Survey to ACIP HPV Workgroup
- ❑ Score (1-9) outcomes for females, males
 - benefits and harms
- ❑ 21 responses
- ❑ Score of >6 (Critical)

Critical HPV Type Specific Outcomes: 9vHPV in Females

Critical Outcome	Direct Data	Other Data
Benefits		
Cervical cancer	No	CIN 2/3
Cervical precancer	Yes	--
Anal cancer	No	Immunogenicity
Vaginal/vulvar cancer	No	VIN/VaIN 2/3
CIN any grade	Yes	--
Definitive therapies (cervical, non-ablative, LEEP, conization)	Yes	--
Oropharyngeal cancer	No	No
Harms		
SAE	Yes	--
Anaphylaxis	Yes	--

Critical HPV Type Specific Outcomes: 9vHPV in Males

Critical Outcome	Direct Data	Other Data
Benefits		
Anal cancer	No	Immunogenicity
Oropharyngeal cancer	No	--
Harms		
SAE	Yes	--
Anaphylaxis	Yes	--

Should 9vHPV be Recommended Routinely for 11 or 12 Year Olds?

P: Females immunized at age 11 or 12 years

I: 9vHPV

C: HPV4

O: Critical outcomes

- Evaluation of HPV 6, 11, 16, 18 related equivalence
- Evaluation of HPV 31, 33, 45, 52, 58 related superiority

P: Males immunized at age 11 or 12 years

I: 9vHPV

C: HPV4

O: Critical outcomes

- Evaluation of HPV 6, 11, 16, 18 related equivalence

Should 9vHPV be Recommended for Older Females and Males who were not Vaccinated when they were Younger?

P: Females immunized at ages 13 through 26 years

I: 9vHPV

C: HPV4

O: Critical outcomes

- Evaluation of HPV 6, 11, 16, 18 related equivalence
- Evaluation of HPV 31, 33, 45, 52, 58 related superiority

P: Males immunized at ages 13 through 21 years

I: 9vHPV

C: HPV4

O: Critical outcomes

- Evaluation of HPV 6, 11, 16, 18 related equivalence

Data Available for Primary Policy Questions

- ❑ Efficacy and Immunogenicity 16-26 year old females
- ❑ Immunogenicity 9-15 year old males and females
- ❑ Immunogenicity 16-26 year old MSM, MSW
 - Data available Oct 2014 for GRADE
 - Pending FDA approval for adult male indication at the time of primary licensure

Overview: Cost-Effectiveness

- ❑ **Cost-effectiveness of 9vHPV**
 - males and females separately and combined
- ❑ **Cost-effectiveness of re-vaccination with 9vHPV after receipt of 3 doses of HPV4**

Summary: GRADE for 9vHPV

- Policy questions and PICO developed
- Next steps:
 - Develop tables of evidence on 9vHPV and present to workgroup
 - Present cost-effectiveness to ACIP in October 2014
 - Present GRADE on 9vHPV to ACIP in October 2014

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